

AUSTRALIAN PLANT DISEASE RECORDER

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For confidential circulation to plant pathologists
in Australia - PLEASE DO NOT ABSTRACT.



STATE OF NEW YORK

January, 1904

Volume 11, Number 1

THE STATE OF NEW YORK, in and for the County of ... do hereby certify that the within and foregoing is a true and correct copy of the original as the same appears on the records of the ...

Witness my hand and the seal of the State of New York, at Albany, this ... day of January, 1904.

GOVERNOR ...
COMMISSIONER ...

NAME		RESIDENCE		DATE	
1	...	...	...	...	...
2	...	...	...	...	...
3	...	...	...	...	...
4	...	...	...	...	...
5	...	...	...	...	...
6	...	...	...	...	...

IN WITNESS WHEREOF, I have hereunto set my hand and the seal of the State of New York, at Albany, this ... day of January, 1904.

PLANT DISEASE NOTESFIELD AND FODDER CROPSVIOLET ROOT-ROT OF LUCERNE:

Recently a stand of lucerne near Kyogle on the north coast of N.S.W. was found to be affected by this disease. Patches of infected plants occurred last season and have been observed to be enlarging this summer.

The causal fungus, Helicobasidium purpureum, has a world-wide distribution, which, in view of our present knowledge, is rather surprising. It has a poor competitive saprophytic ability and requires a considerable inoculum potential to initiate an infection. Hence the function of the conidia and basidiospores is not known. In this respect it has much in common with Armillaria mellea, and even with saprophytes such as Merulius lacrymans and Psalliota hortensis, which appear to require a considerable inoculum potential to colonise their substrates. The function of the spores and method of dispersal of all these fungi is a most interesting subject awaiting investigation.

- P.G. VALDER.

Department of Agriculture,
SYDNEY.

PLANT NEMATODE NOTES

FIELD AND POTATO CROPS

VIRIDIT 8-10-10 OF PLANTS:

Recently a strain of *Viridit* from *Viola* on the north coast of N.S.W. was found to be infected by this disease. Infected plants showed characteristic symptoms and have been observed to be infested with nematodes.

The nematode *Viridit*, *Viridit*, *Viridit*, has a world-wide distribution, and in view of our present knowledge, it is not known. It has a good reproductive capacity and reproduces a considerable number of offspring in the soil. Infected plants show characteristic symptoms and have been observed to be infested with nematodes. In this respect it has much in common with *Viridit*, and even with *Viridit* and *Viridit*. *Viridit* and *Viridit* have been found to be infected with nematodes, and even with *Viridit* and *Viridit*. The transmission of the nematode and the extent of its distribution is a most interesting subject requiring investigation.

E.O. VANDER
Department of Agriculture
Sydney.

VEGETABLES

2.

LETTUCE BIG VEIN:

The disease of lettuce known as big vein was first reported in 1934 by Jagger and Chandler (Phytopathology 24: 1253-1256, 1934). Since that time, several theories about its cause have been put forward, but, in recent years, the most popular one has been that it is caused by a soil-borne virus, probably of the tobacco necrosis type.

Recently, the whole question of the disease has been re-opened by Grogan & co-workers in the U.S.A. (Phytopathology 48: 292-297, 1958) and Fry in New Zealand (N.Z. Jour. Agric. Res. 1: 301-304, 1958). Both these workers have found a close correlation between the occurrence of big vein and the presence in the roots of the fungus Olpidium brassicae (Wor.) Dang. They have presented certain experimental evidence which makes it appear highly probable that this fungus is the primary cause of the disease but, on the other hand, some of this work indicates that the relationship is not a simple one but governed by some other (as yet undetermined) factors.

In New South Wales, big vein was first recorded in 1939 at Prospect, near Sydney. Over the next ten years, two other records of the disease were made, at Baulkham Hills in 1946 and at Glenorie in 1947.

Until recently, only one or two other cases of big vein had been seen since 1947. However, in November, 1958, a severe outbreak of this disease at Murrumburrah, in southern N.S.W., caused almost the complete loss of 5,000 plants of the varieties Great Lakes and Imperial. Losses were increased by the breaking-down of the enlarged veins of leaves and petioles with soft-rotting bacteria. In December, another lettuce crop containing 1-2% of big vein plants was seen at Brighton-le-Sands. In both cases, the roots of affected plants were found to contain a large number of resting sporangia of Olpidium brassicae. The beaked zoosporangia were also seen in the plants from Murrumburrah. This fungus was not seen in roots of healthy plants from Richmond but a few resting sporangia were seen in the roots of plants (var. Green Mignonette) from Baulkham Hills. In both these cases, the roots of several weeds growing in the same bed were examined and found to contain many resting sporangia.

At the present time work is being carried out to see if there are varietal differences in reaction to this disease and to study further the part played by Olpidium in its development.

- J. WALKER.

LEAFHOPPER AND VINE

The disease of tobacco known as big vein was first reported in 1931 by Jagger and Chandler (Phytopathology 21: 1255-1256, 1931). Since that time, several theories about its cause have been put forward, but, in recent years, the most popular one has been that it is caused by a soil-borne virus, probably of the tobacco necrosis type.

Recently, the whole question of the disease has been reviewed by Jagger and Chandler in the U.S.A. (Phytopathology 37: 1255-1257, 1947) and by de Waele (A.S. 1947, 1948, 1949, 1950, 1951). Both these workers have found a close correlation between the occurrence of big vein and the presence in the roots of the tobacco of a certain virus (var. *Big Vein*). They have presented certain experimental evidence which makes it seem highly probable that this virus is the primary cause of the disease but, on the other hand, some of the work indicates that the relationship is not a simple one but governed by some other (as yet undetermined) factor.

In New South Wales, the virus was first recorded in 1939 at Prospect, near Sydney. Over the next ten years, two other records of the disease were made, at Richmond Hills in 1945 and at Glenfield in 1947.

Until recently only one or two other cases of big vein had been known since 1947. However, in November, 1955, a severe outbreak of this disease at Richmond Hills, in southern N.S.W., caused almost two hundred loss of 5,000 plants of the varietal strain of *Big Vein*. The plants were damaged by the sucking-thrips of the tobacco root-miner, *Trialeurodes vaporariorum*, which had been found in the roots of the plants. In both cases, the roots of affected plants were found to contain a large number of rosette sporangia of *Trialeurodes vaporariorum*. The rosette sporangia were also seen in the roots of the plants from Richmond Hills. This fungus was not seen in roots of healthy plants from Richmond but a few rosette sporangia were seen in the roots of plants (var. *Green Richmond*) from Richmond Hills. In both these cases, the roots of several weeds growing in the same bed were examined and found to contain many rosette sporangia.

At the present time work is being carried out to see if there are varietal differences in reaction to this disease and to study further the part played by *Trialeurodes* in the development.

RHIZOCTONIA AND SCLEROTINIA CARRIED WITH BEAN SEED:

During routine germination tests carried out on bean seed by the Seed Testing Laboratory of this Department, two diseases which are not commonly seed-borne were found recently. Germinating seeds from two crops of the variety Brown Beauty grown on the South Coast showed reddish-brown, sunken lesions on the hypocotyl, from which a Rhizoctonia of the solani type was isolated. One lot of seed was carrying this fungus to the extent of about 2%. Two other samples of seed each yielded one seedling killed by Sclerotinia sclerotiorum.

In all cases, the seed samples showed a large number of weather damaged seeds and weather conditions during the seed ripening period are probably the main factor influencing seed infection by these fungi.

- J. WALKER.

Department of Agriculture,
SYDNEY.

EXTRACTS FROM THE REPORT OF THE

United States Commission on the Causes of the War of 1898
to the Senate and House of Representatives, 1898-1899
which are now being published in two volumes. The first
volume from the report of the United States Commission on the
Causes of the War of 1898, which is now being published
in two volumes, is the first of the series. The second
volume is the second of the series. The first volume
is the first of the series. The second volume is the
second of the series.

In all cases, the most rapid change in the
weather between the two volumes is the most rapid
change in the weather. The first volume is the first
of the series. The second volume is the second
of the series.

U. S. COMMISSION

Department of Agriculture
1898-1899

FRUITCONTROL OF SHOT HOLE IN STONE FRUITS:

In May 1958 isolated groups of trees at Young comprising almond, apricot, and peach were sprayed with 0.1% phenyl mercuric chloride. These trees, which have been heavily infected with shot hole (Clasterosporium carpophilum) for many years, have received no fungicide since the P.M.C. was applied.

All of the P.M.C. sprayed trees are now almost free of shot hole lesions, whereas the incidence of this disease throughout the district is high. Non-sprayed homestead apricot trees, similar to and in the same location as the P.M.C. sprayed ones, are so severely infected that the fruit is valueless and the trees almost defoliated.

A similar experiment was carried out on an isolated group of fifteen very large old neglected apricot trees at Wiseman's Ferry. These trees have a history of very severe shot hole and freckle (Fusicladium carpophilum) infection. They were sprayed in mid-June with 0.1% P.M.C., and no other spray has been applied since. The crop this season was harvested free of freckle and with a very slight shot hole infection. This contrasted markedly with the extremely severe infection usually experienced in these trees and with the heavy shot hole infection which was general in Apricots and other stone fruits throughout the district this season.

With trees as severely infected as those used in these experiments at Young and at Wiseman's Ferry it would take two or three seasons to obtain the same degree of control by the recommended autumn and spring Bordeaux Mixture 10-10-100- $\frac{1}{2}$ programme as that achieved by the single 0.1% P.M.C. spray applied.

- K.E. HUTTON.

Department of Agriculture,
SYDNEY.

REPORT OF THE FIELD STATION

In May 1933 local groups of trees at various localities, almost, without, and some were sprayed with 0.1% phenol solution. These trees, which have been heavily infested with beet (classical *Curculionidae*) for many years, have received no further study and have died.

All of the trees, except those and one direct line of that have been, within the limits of this station throughout the district in 1933. The same has been applied to them in the same manner as in 1932, and the same results have been obtained. The trees are still alive and the same results have been obtained.

A similar experiment was carried out on an isolated group of trees very large old healthy trees at various localities. These trees have a history of very heavy infestation in 1932. The same has been applied to them in 1933, and the same results have been obtained. The trees are still alive and the same results have been obtained. The trees are still alive and the same results have been obtained.

With these results it is evident that the same results have been obtained in 1933. The same has been applied to them in 1933, and the same results have been obtained. The trees are still alive and the same results have been obtained.

- 2.2. HUTTON.

ORNAMENTALSWHITE RUST OF GERBERA:

During November some leaves of gerbera, having the fungal disease known as white rust, were received from a gardener at Beecroft. This is the first record of the occurrence of this disease in New South Wales.

Infected leaves show raised, white, powdery "blisters" on their undersurfaces. These are the pustules in which the conidia are produced.

The causal fungus is a species of Albugo. The conidia with annular thickened bands closely resemble those of A. tragopogi S.F. Gray described by Shirley D. Baker (Trans. Roy. Soc. N.Z., 82, 5, 987-993). No oospores were found to confirm this. A. tragopogi is found, however, on many members of the Compositae and has been recorded on Gerbera jamesoni in South Africa under the old name of Cystopus cubicus (Strauss) de Bary. No other record of the disease could be found.

Since November additional specimens of white rust on gerbera have been received from the Parramatta area suggesting that the fungus is now well established in the western suburbs of Sydney.

- J. PEARMAN.

Department of Agriculture,
SYDNEY.

1914-1915

WHITE PINE CO. MONT.

During November some larvae of *Agathidium* were received from a resident of the White Pine Co. This is the first record of the occurrence of this species in the county.

Infected larvae were found, this, possibly, *Agathidium* or *Agathidium*. These are the specimens in which the infection was found.

The common fungus is a species of *Agathidium*. The contents of the container were also examined. One of the specimens was found to be infected by *Agathidium* (Young, W. H. 1914). The contents were found to contain this. A specimen is found, however, of very common at the same time. It has been recorded as *Agathidium* in South Africa where the old name of *Agathidium* (Horn) is used. No other species of the genus were found.

Three specimens additional specimens of white pine on which have been received from the same source. These are now well established in the system and are now well established in the system.

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Department of Agriculture
BUREAU

LEAF SPOT OF BRUSH BOX:

Brush box (Tristania conferta R.Br.) is a very common tree in streets, parks and gardens around Sydney. It is often affected with a leaf spot caused by a species of Cercospora. The spots produced are small, about 2 mm. in diameter, and purple in colour. On a heavily infected leaf there may be hundreds of these spots scattered over it and often running together forming irregularly shaped purplish patches.

A tree at Toongabbie, near Sydney, heavily infected with this disease, has been observed for the past three years. Infected leaves often fall prematurely. On dead leaves under the tree, a fungus of the genus Mycosphaerella has been found in abundance and it is suspected that it is the perfect stage of the Cercospora. The pattern of infection on the tree is consistent with ascospore infection and the Mycosphaerella on the dead leaves occurs in patches corresponding to the Cercospora patches on the living leaves. Work to see if there is any connection between the two fungi is being carried out.

- J. WALKER.

Department of Agriculture,
SYDNEY.

STUDIES WITH ANTIMONY TRIOXIDE

The Woods and Forests Department of South Australia are undertaking an extensive grafting programme with young eucalypts well established trees of a desirable type as a source of seed material and grafting this on to trees four or five years old seedlings. Both elite and elite grafting techniques have been used but percentage take has been very low by both methods, rarely exceeding 50%.

During 1958 specimens of failed grafts were submitted to the Forest Research Institute to test for the presence of latent pathogens. More than twenty latent infections were obtained from this material and six latent infections were tested for resistance to two year old elite seedlings. Of these six latent, only one, Latent infection, was resistant. Young wood such as is used in grafting was particularly susceptible to the disease.

The source of inoculum and possible means of preventing infection are being investigated.

W. J. ALLEN

With interest,
W. J. ALLEN